

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT (PCT Article 36 and Rule 70)



Applicant's or agent's file reference 0275Y-583POA	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)	
International application No. PCT/US 03/18279	International filing date (<i>day/month/year</i>) 11.06.2003	Priority date (<i>day/month/year</i>) 13.06.2002
International Patent Classification (IPC) or both national classification and IPC H01R39/38		
Applicant BLACK & DECKER INC. et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 7 sheets, including this cover sheet.

☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

 These annexes consist of a total of 3 sheets.

3. This report contains indications relating to the following items:
 - I ☒ Basis of the opinion
 - II ☐ Priority
 - III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
 - IV ☐ Lack of unity of invention
 - V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
 - VI ☐ Certain documents cited
 - VII ☐ Certain defects in the international application
 - VIII ☐ Certain observations on the international application

Date of submission of the demand 12.01.2004	Date of completion of this report 16.06.2004
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**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/US 03/18279**

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-5 as originally filed

Claims, Numbers

1-11 filed with telefax on 27.04.2004

Drawings, Sheets

1/4-4/4 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
☐ the language of publication of the international application (under Rule 48.3(b)).
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority in written form.
☐ furnished subsequently to this Authority in computer readable form.
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
☐ the claims, Nos.:
☐ the drawings, sheets:

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5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-11
	No: Claims	
Inventive step (IS)	Yes: Claims	1-11
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-11
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. STATE OF THE ART

Reference is made to the following documents:

D1: US-A-6 031 313 (SUGAI ET AL.) 29 February 2000

D2: EP-A-0 935 318 (BLACK & DECKER INC.) 11 August 1999

2. STATEMENT REGARDING TO ARTICLES 5 AND 6 PCT

- 2.1 As claims 2, 5 and 8 have been cancelled, a new numbering of claims should be made in order to avoid unclarity. Furthermore, the dependence of claims have to be amended accordingly (see, for example, claim 9 which refers to the cancelled claim 8).
- 2.2 Although claims 1 and 4 have been drafted as separate independent claims, claim 1 depends on claim 4, as claim 1 includes all the features of claim 4. This is because both claims define effectively the same brush with a spring member and differ from each other only with regard to the definition of said brush with a spring member in respect of the terminology used for the features of that brush with a spring member. The aforementioned claims therefore lack conciseness.
- 2.3 In claim 1 it is disclosed that an angle of 0-15 degrees is formed by the arcuate face defined in the spring retention plunge relative to the axis of the brush. In claim 4, description (page 4, lines 16-18) and figures it is disclosed that said angle is formed by the arcuate face defined in the spring retention plunge relative to a plane transverse to said axis. Therefore, inconsistency arises.
- 2.4 A clarity problem in claim 1 is generated by using the wording "said biasing member" (claim 1, line 14) before "a biasing member" was disclosed (claim 1, line 16).
- 2.5 As a result of the objection from point 2.2 of present communication, the additional features of claims 3 and 6 are the same. Therefore, inconsistency arises.

- 2.6 In claim 10 it is disclosed a step of providing a diameter of the arcuate spring retention plunge, said diameter being perpendicular to the axis of the brush. On one hand, this claim is not supported by the description and, on the other hand, geometrically seen, the diameter of the curvature of said arcuate face can not be perpendicular to said axis.
- 2.7 The features of the claims are not followed by reference signs, which in this case would be appropriate. For example, from the description and figures it is to see that there are disclosed two "arcuate faces" (66 and 72).
- 2.8 The independent claim is not in the two-part form, which in the present case would be appropriate, with those features known in combination from the prior art (document D1) being placed in the preamble [Rule 6.3(b)(i) PCT] and with the remaining features being included in the characterising part [Rule 6.3(b)(ii) PCT].
- 2.9 The description does not indicate the background art by citing documents reflecting such art [Rule 5.1(a)(ii) PCT].
- 2.10 The description does not disclose the invention as claimed [Rule 5.1(a)(iii) PCT]

Therefore the application does not meet the requirements of Articles 5 and 6 PCT [see also Regels 5.1, 6.2, 6.3(b) and 6.4(a) PCT] and in the present communication will be given an opinion about the present claims taking into account the above mentioned objections and insofar the claims can be understood.

3. CLOSEST PRIOR ART

Document D1, which is considered to represent the most relevant state of the art, discloses a brush for an electric motor from which the subject-matter of claim 4 differs, inter alia, in that :

F1: - a wall is formed in the surface having the spring retention plunge for retaining contact of the biasing member with said spring retention plunge.

4. OBJECTIVE TECHNICAL PROBLEM

The problem to be solved by the present invention may therefore be regarded as to improve the recess for the biasing member in a brush for an electric motor in order to prohibit lateral movement and thereby avoid arcing or other detrimental occurrences in spite of having a simple form.

5. SOLUTION

The technical problem posed is solved by the features of claim 4, particularly F1.

6. NOVELTY, INVENTIVE STEP AND INDUSTRIAL APPLICABILITY

The feature F1 is neither disclosed in, nor rendered obvious by, either one of the prior art documents cited by the applicant or listed in The International Search Report.

Document D2 discloses a protuberance of the spring retention plunge which could be seen as being a wall, but said wall is not formed in the surface which has said spring retention plunge and therefore the lateral movement of the biasing member can not be fully prohibited. Furthermore, the spring retention plunge disclosed in D2 does not define an arcuate face. Thus, if the skilled person would combine the disclosure of document D1, as closest prior art, with the knowledge of D2, he would not come to the subject-matter of claim 4 in order to solve the problem posed.

Therefore, the independent claim 4 meets the requirements of Article 33(2)-(3) PCT with regard to novelty, inventive step and industrial applicability in view of the available prior art.

Claims 1 and 3 (also 6, but see point 2.5) depend on claim 4 and therefore fulfil the requirements of Article 33(2)-(3) PCT with regard to novelty, inventive step and industrial applicability in view of the available prior art.

Claim 7 refers to a method of manufacturing of the new and inventive brush of claim 3. Therefore, **claim 7 is also new and inventive.**

**INTERNATIONAL PRELIMINARY
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Claims 9,10 and 11 depend on claim 7 and therefore fulfil the requirements of Article 33(2)-(3) PCT with regard to novelty, inventive step and industrial applicability in view of the available prior art.